

Commentaries

- 10,007** Benjamin B. Mirus, Brian A. Ebel, Christian H. Mohr, and Nicolas Zegre
Disturbance Hydrology: Preparing for an Increasingly Disturbed Future
(<https://doi.org/10.1002/2017WR021084>)
- 10,017** M. F. McCabe, B. Aragon, R. Houborg, and J. Mascaro
CubeSats in Hydrology: Ultrahigh-Resolution Insights Into Vegetation Dynamics and Terrestrial Evaporation
(<https://doi.org/10.1002/2017WR022240>)

Research Articles

- 10,025** Eleonora M. C. Demaria, Francina Dominguez, Huancui Hu, Gerd von Glinski, Marcos Robles, Jonathan Skindlov, and James Walter
Observed Hydrologic Impacts of Landfalling Atmospheric Rivers in the Salt and Verde River Basins of Arizona, United States (<https://doi.org/10.1002/2017WR020778>)
- 10,043** James Knighton, Scott Steinschneider, and M. Todd Walter
A Vulnerability-Based, Bottom-up Assessment of Future Riverine Flood Risk Using a Modified Peaks-Over-Threshold Approach and a Physically Based Hydrologic Model (<https://doi.org/10.1002/2017WR021036>)
- 10,065** Atsushi Maruyama, Manabu Nemoto, Takahiro Hamasaki, Sachinobu Ishida, and Tsuneo Kuwagata
A Water Temperature Simulation Model for Rice Paddies With Variable Water Depths
(<https://doi.org/10.1002/2017WR021019>)
- 10,085** Joseph Bellier, Guillaume Bontron, and Isabella Zin
Using Meteorological Analogues for Reordering Postprocessed Precipitation Ensembles in Hydrological Forecasting (<https://doi.org/10.1002/2017WR021245>)
- 10,108** Chris Neher, John Duffield, Lucas Bair, David Patterson, and Katherine Neher
Testing the Limits of Temporal Stability: Willingness to Pay Values among Grand Canyon Whitewater Boaters Across Decades (<https://doi.org/10.1002/2017WR020729>)
- 10,121** Michael R. Plampin, Mark L. Porter, Rajesh J. Pawar, and Tissa H. Illangasekare
Intermediate-Scale Experimental Study to Improve Fundamental Understanding of Attenuation Capacity for Leaking CO₂ in Heterogeneous Shallow Aquifers (<https://doi.org/10.1002/2016WR020142>)
- 10,139** L. A. Schifman, D. L. Herrmann, W. D. Shuster, A. Ossola, A. Garmestani, and M. E. Hopton
Situating Green Infrastructure in Context: A Framework for Adaptive Socio-Hydrology in Cities*
(<https://doi.org/10.1002/2017WR020926>)

*This article is part of a Special Section—Socio-hydrology: Spatial and Temporal Dynamics of Coupled Human-Water Systems

- 10,155** Julia Vanessa Kunz, Michael D. Annable, Suresh Rao, Michael Rode, and Dietrich Borchardt
Hyporheic Passive Flux Meters Reveal Inverse Vertical Zonation and High Seasonality of Nitrogen Processing in an Anthropogenically Modified Stream (Holtemme, Germany) (<https://doi.org/10.1002/2017WR020709>)
- 10,173** Adam N. Price, Cary R. Lindsey, and Jerry P. Fairley
Interpretation of Ground Temperature Anomalies in Hydrothermal Discharge Areas
(<https://doi.org/10.1002/2017WR021077>)
- 10,188** Paul M. Jakus, Nanette Nelson, and Jeffrey Ostermiller
Using Survey Data to Determine a Numeric Criterion for Nutrient Pollution
(<https://doi.org/10.1002/2017WR021527>)
- 10,201** Matthew P. Miller, Anthony J. Tesoriero, Krista Hood, Silvia Terziotti, and David M. Wolock
Estimating Discharge and Nonpoint Source Nitrate Loading to Streams From Three End-Member Pathways Using High-Frequency Water Quality Data* (<https://doi.org/10.1002/2017WR021654>)

*This article is part of a Special Section—Continuous Nutrient Sensing in Research and Management: Applications and Lessons Learned Across Aquatic Environments and Watersheds

- 10,217** Lauren E. Beckingham
Evaluation of Macroscopic Porosity-Permeability Relationships in Heterogeneous Mineral Dissolution and Precipitation Scenarios (<https://doi.org/10.1002/2017WR021306>)

- 10,231** Daniel C. Wilusz, Ciaran J. Harman, and William P. Ball
Sensitivity of Catchment Transit Times to Rainfall Variability Under Present and Future Climates (<https://doi.org/10.1002/2017WR020894>)
- 10,257** Timothy DeWeese, Daniele Tonina, and Charles Luce
Monitoring Streambed Scour/Deposition Under Nonideal Temperature Signal and Flood Conditions (<https://doi.org/10.1002/2017WR020632>)
- 10,274** Ying Gao, Qingyang Lin, Branko Bijeljic, and Martin J. Blunt
X-ray Microtomography of Intermittency in Multiphase Flow at Steady State Using a Differential Imaging Method (<https://doi.org/10.1002/2017WR021736>)
- 10,293** Kristen L. Underwood, Donna M. Rizzo, Andrew W. Schroth, and Mandar M. Dewoolkar
Evaluating Spatial Variability in Sediment and Phosphorus Concentration-Discharge Relationships Using Bayesian Inference and Self-Organizing Maps (<https://doi.org/10.1002/2017WR021353>)
- 10,317** Xiaolong Geng, James W. Heiss, Holly A. Michael, and Michel C. Bouffadel
Subsurface Flow and Moisture Dynamics in Response to Swash Motions: Effects of Beach Hydraulic Conductivity and Capillarity (<https://doi.org/10.1002/2017WR021248>)
- 10,336** Willemijn M. Appels, Patrick W. Bogaart, and Sjoerd E. A. T. M. van der Zee
Feedbacks Between Shallow Groundwater Dynamics and Surface Topography on Runoff Generation in Flat Fields (<https://doi.org/10.1002/2017WR020727>)
- 10,354** A. Betterle, D. Radny, M. Schirmer, and G. Botter
What Do They Have in Common? Drivers of Streamflow Spatial Correlation and Prediction of Flow Regimes in Ungauged Locations (<https://doi.org/10.1002/2017WR021144>)
- 10,374** F. Tauro, R. Piscopia, and S. Grimaldi
Streamflow Observations From Cameras: Large-Scale Particle Image Velocimetry or Particle Tracking Velocimetry? (<https://doi.org/10.1002/2017WR020848>)
- 10,395** Behzad Ghanbarian, Marios A. Ioannidis, and Allen G. Hunt
Theoretical Insight Into the Empirical Tortuosity-Connectivity Factor in the *Burdine-Brooks-Corey* Water Relative Permeability Model (<https://doi.org/10.1002/2017WR021753>)
- 10,411** Dong Ding, David A. Benson, Daniel Fernández-García, Christopher V. Henri, David W. Hyndman, Mantha S. Phanikumar, and Diogo Bolster
Elimination of the Reaction Rate "Scale Effect": Application of the Lagrangian Reactive Particle-Tracking Method to Simulate Mixing-Limited, Field-Scale Biodegradation at the Schoolcraft (MI, USA) Site (<https://doi.org/10.1002/2017WR021103>)
- 10,433** Alireza Attari Moghaddam, Marc Prat, Evangelos Tsotsas, and Abdolreza Kharaghani
Evaporation in Capillary Porous Media at the Perfect Piston-Like Invasion Limit: Evidence of Nonlocal Equilibrium Effects (<https://doi.org/10.1002/2017WR021162>)
- 10,450** M. Sadegh Riasi and Lilit Yeghiazarian
Controllability of Surface Water Networks (<https://doi.org/10.1002/2017WR020861>)
- 10,465** Oliver S. Schilling, Christoph Gerber, Daniel J. Partington, Roland Purtschert, Matthias S. Brennwald, Rolf Kipfer, Daniel Hunkeler, and Philip Brunner
Advancing Physically-Based Flow Simulations of Alluvial Systems Through Atmospheric Noble Gases and the Novel ^{37}Ar Tracer Method (<https://doi.org/10.1002/2017WR020754>)
- 10,491** Beatrix Becker, Bo Guo, Karl Bandilla, Michael A. Celia, Bernd Flemisch, and Rainer Helmig
A Pseudo-Vertical Equilibrium Model for Slow Gravity Drainage Dynamics (<https://doi.org/10.1002/2017WR021644>)
- 10,508** P. Fischer, A. Jardani, X. Wang, H. Jourde, and N. Lecoq
Identifying Flow Networks in a Karstified Aquifer by Application of the Cellular Automata-Based Deterministic Inversion Method (Lez Aquifer, France) (<https://doi.org/10.1002/2017WR020921>)
- 10,523** Upeksha Caldera and Christian Breyer
Learning Curve for Seawater Reverse Osmosis Desalination Plants: Capital Cost Trend of the Past, Present, and Future (<https://doi.org/10.1002/2017WR021402>)
- 10,539** Kimberly A. Rhodes, Tiffany Proffitt, Taylor Rowley, Peter S. K. Knappett, Daniel Montiel, Natasha Dimova, Daniel Tebo, and Gretchen R. Miller
The Importance of Bank Storage in Supplying Baseflow to Rivers Flowing Through Compartmentalized, Alluvial Aquifers (<https://doi.org/10.1002/2017WR021619>)

- 10,558** *Jonathan Schuite, Laurent Longuevergne, Olivier Bour, Thomas J. Burbey, Frédéric Boudin, Nicolas Lavenant, and Philippe Davy*
Understanding the Hydromechanical Behavior of a Fault Zone From Transient Surface Tilt and Fluid Pressure Observations at Hourly Time Scales (<https://doi.org/10.1002/2017WR020588>)
- 10,583** *Oliver S. Schilling, Dylan J. Irvine, Harrie-Jan Hendricks Franssen, and Philip Brunner*
Estimating the Spatial Extent of Unsaturated Zones in Heterogeneous River-Aquifer Systems (<https://doi.org/10.1002/2017WR020409>)
- 10,603** *Walter Collischonn, Ayan Fleischmann, Rodrigo C. D. Paiva, and Alfonso Mejia*
Hydraulic Causes for Basin Hydrograph Skewness (<https://doi.org/10.1002/2017WR021543>)
- 10,619** *Patricia Gonzales and Newsha Ajami*
Social and Structural Patterns of Drought-Related Water Conservation and Rebound* (<https://doi.org/10.1002/2017WR021852>)
- *This article is part of a Special Section—Special Section-Socio-hydrology: Spatial and Temporal Dynamics of Coupled Human-Water Systems
- 10,635** *Feilin Zhu, Ping-An Zhong, Yimeng Sun, and William W.-G. Yeh*
Real-Time Optimal Flood Control Decision Making and Risk Propagation Under Multiple Uncertainties (<https://doi.org/10.1002/2017WR021480>)
- 10,655** *L. E. Koenig, M. D. Shattuck, L. E. Snyder, J. D. Potter, and W. H. McDowell*
Deconstructing the Effects of Flow on DOC, Nitrate, and Major Ion Interactions Using a High-Frequency Aquatic Sensor Network* (<https://doi.org/10.1002/2017WR020739>)
- *This article is part of a Special Section—Continuous Nutrient Sensing in Research and Management: Applications and Lessons Learned Across Aquatic Environments and Watersheds
- 10,674** *Zeli Tan, L. Ruby Leung, Hongyi Li, Teklu Tesfa, Matthias Vanmaercke, Jean Poesen, Xuesong Zhang, Hui Lu, and Jens Hartmann*
A Global Data Analysis for Representing Sediment and Particulate Organic Carbon Yield in Earth System Models (<https://doi.org/10.1002/2017WR020806>)
- 10,701** *Mario Berk, Olga Špačková, and Daniel Straub*
Probabilistic Design Storm Method for Improved Flood Estimation in Ungauged Catchments (<https://doi.org/10.1002/2017WR020947>)
- 10,723** *Tristan Brauchli, Ernesto Trujillo, Hendrik Huwald, and Michael Lehning*
Influence of Slope-Scale Snowmelt on Catchment Response Simulated With the *Alpine3D* Model (<https://doi.org/10.1002/2017WR021278>)
- 10,740** *B. Haese, S. Hörning, C. Chwala, A. Bárdossy, B. Schalge, and H. Kunstmann*
Stochastic Reconstruction and Interpolation of Precipitation Fields Using Combined Information of Commercial Microwave Links and Rain Gauges (<https://doi.org/10.1002/2017WR021015>)
- 10,757** *R. A. Hrozencik, D. T. Manning, J. F. Suter, C. Goemans, and R. T. Bailey*
The Heterogeneous Impacts of Groundwater Management Policies in the Republican River Basin of Colorado (<https://doi.org/10.1002/2017WR020927>)
- 10,779** *Bhasker Rathi, Adam J. Siade, Michael J. Donn, Lauren Helm, Ryan Morris, James A. Davis, Michael Berg, and Henning Prommer*
Multiscale Characterization and Quantification of Arsenic Mobilization and Attenuation During Injection of Treated Coal Seam Gas Coproduced Water into Deep Aquifers (<https://doi.org/10.1002/2017WR021240>)
- 10,802** *Shaoxing Mo, Dan Lu, Xiaoqing Shi, Guannan Zhang, Ming Ye, Jianfeng Wu, and Jichun Wu*
A Taylor Expansion-Based Adaptive Design Strategy for Global Surrogate Modeling With Applications in Groundwater Modeling (<https://doi.org/10.1002/2017WR021622>)
- 10,824** *Carlos H. R. Lima and Amir AghaKouchak*
Droughts in Amazonia: Spatiotemporal Variability, Teleconnections, and Seasonal Predictions (<https://doi.org/10.1002/2016WR020086>)
- 10,841** *Paolo Scussolini, Thu Thi Van Tran, Elco Koks, Andres Diaz-Loaiza, Phi Long Ho, and Ralph Lasage*
Adaptation to Sea Level Rise: A Multidisciplinary Analysis for Ho Chi Minh City, Vietnam (<https://doi.org/10.1002/2017WR021344>)
- 10,858** *Yang Lu, Susan C. Steele-Dunne, Leila Farhadi, and Nick van de Giesen*
Mapping Surface Heat Fluxes by Assimilating SMAP Soil Moisture and GOES Land Surface Temperature Data (<https://doi.org/10.1002/2017WR021415>)

Technical Reports: Data

- 10,878** *C. K. Gasch, D. J. Brown, C. S. Campbell, D. R. Cobos, E. S. Brooks, M. Chahal, and M. Poggio*
A Field-Scale Sensor Network Data Set for Monitoring and Modeling the Spatial and Temporal Variation of Soil Water Content in a Dryland Agricultural Field (<https://doi.org/10.1002/2017WR021307>)

Technical Reports: Methods

- 10,888** *Thomas Sherman, Abbas Fakhari, Savannah Miller, Kamini Singha, and Diogo Bolster*
Parameterizing the Spatial Markov Model From Breakthrough Curve Data Alone
(<https://doi.org/10.1002/2017WR021810>)
- 10,899** *Jun Zhang and Dawei Han*
Catchment Morphing (CM): A Novel Approach for Runoff Modeling in Ungauged Catchments
(<https://doi.org/10.1002/2017WR021403>)
- 10,908** *Ryota Tsubaki*
On the Texture Angle Detection Used in Space-Time Image Velocimetry (STIV)
(<https://doi.org/10.1002/2017WR021913>)